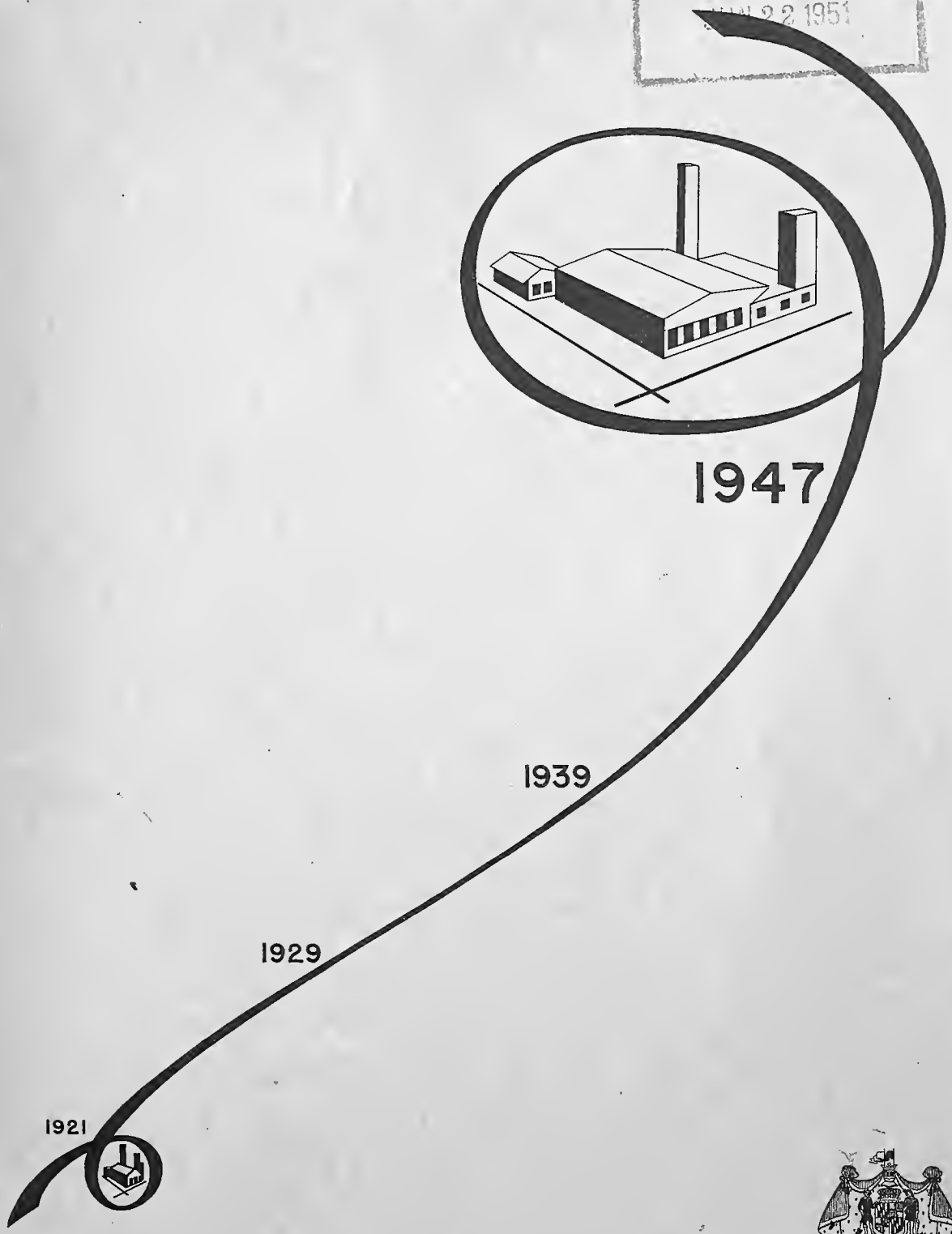
GROWTH OF MANUFACTURES IN MARYLAND



MARYLAND STATE PLANNING COMMISSION

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1950

GROWTH OF MANUFACTURES IN MARYLAND

1921 - 1947

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100 Equitable Building
Baltimore 2, Maryland

March 15, 1951

Mr. John B. Funk, Chairman
Maryland State Planning Commission
Baltimore 2, Maryland

Dear Mr. Funk:

I am pleased to transmit herewith a study of the Commission's staff called: "Growth of Manufactures in Maryland, 1921 - 1947."

Continuing the series of reports surveying the economic development and industrial progress of the State, which the Commission has undertaken in the past, the present study analyses the growth of industry in Maryland. The years 1921 - 1947 include the worst depression in the nation's history, as well as the greatest military effort of the country; therefore it was possible to assess the effects of severe strain on Maryland's economy.

In order to arrive at a clear picture of the State's industrial development it would have been most helpful if data were available on a yearly basis. As it is however, the study dealt with figures applying only to 1921, 1929, 1939, and 1947. In effect this resulted in taking a sample of Maryland's economy during the indicated years, surmising about changes which occurred in the intervening years.

In spite of the limitations of the data the results definitely showed that manufactures in the State have grown considerably, value added by manufacture in Maryland increasing more rapidly than the country as a whole. The figures further indicate that the State weathered the depression better than the nation since the number of production workers and value added by manufacture in Maryland increased steadily during the entire period under review, while the nation showed a drop in both of these factors during the period from 1929 - 1939.

By pointing out the areas of strength in the manufacturing industry in the State, as well as indicating the areas that might be improved, the study indicates that Maryland may well be proud of its accomplishments although there is still further industrial potential that can be utilized.

Very truly yours,

I. Alvin Pasarew

I. Alvin Pasarew
Director

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INTRODUCTION

The Maryland State Planning Commission is authorized to: "Collect and publish information relating to welfare problems affecting the people of the State of Maryland , . ."

Within this framework, the Commission has published many studies of the economic and industrial life of Maryland. Among these are: Economic Studies of Maryland (in six parts); Report on Wholesale Market Facilities for Greater Baltimore; A Survey of the Impact of F.O.B. Mill Pricing on Maryland Manufacturers; and studies on the men's clothing industry, the fertilizer industry, and the iron and steel industry in the State.

This study, which is an analysis of past Censuses of Manufactures, with particular emphasis upon the Census of 1947, belongs to this group of economic studies.

CHAPTER I

BACKGROUND AND FINDINGS

Definitions

The first Census of Manufactures was undertaken in 1809 and was taken decennially thereafter until 1899, with the exception of 1829. It was conducted at five year intervals from 1904 through 1919 and biennially from 1921 through 1939. The Census of Manufactures of 1947 is the most recent census, which covers manufacturing activity in the 48 states and the District of Columbia.

This study deals primarily with comparisons of data for the following economic factors: number of establishments, average number of production workers, wages paid to these workers and value added by manufacture.

The term "establishment" signifies a simple plant or factory. It does not necessarily refer to a business unit or company, which may consist of several establishments. The general explanations of the 1947 Census of Manufactures states that if a company operates establishments at more than one location, it is required to submit reports for each location. Also, if companies engage in distinctly different lines of activity at one location they are required to submit separate reports if separate company records are available.

"Production workers" include "working foremen and all non-supervisory workers (including leadmen and trainees) engaged in fabricating, handling, packing, warehousing, shipping, maintenance, repair, janitorial and watchman services, product development, auxiliary production for plant's own use (e.g. power plant), record-keeping, and other services closely associated with these production operations."

"Wages" are defined as "the gross earnings of employees, including commissions, dismissal pay, non-production bonuses, vacation and sick leave pay, and compensation in kind, and prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds."

"Value added by manufacture," according to the Bureau of the Census, ". . . approximates the value created in the process of manufacture [and] value added provides the most satisfactory measure of the relative economic importance of given industries available in the Census of Manufactures." Value added by manufacture "is calculated by subtracting the cost of materials, supplies and containers, fuel, purchased electric energy, and contract work from the total value of shipments."

Although the primary analysis employed in this study is a comparison of the trends in Maryland with that of the U.S., for the four factors listed above, other pertinent analyses were also employed. Among these are the following:

1) A comparison of Maryland's relative standing as compared to the U. S. for each of the four factors

2) A comparison of Maryland with other leading states on the respective factors

3) Percentage of population employed as production workers

4) Comparing Maryland's leading industries with these industries in other states

5) Change in importance in Maryland's leading industries and industry groups

6) Analysis of the average number of workers per establishment.

These measurements are valuable in determining various inter and intra-state relationships. Some questions which might be answered

are the following: Are Maryland's manufacturing firms larger or smaller than the average? What is the change in size since 1921? How does the fertilizer industry in Maryland compare with this industry in other states? How much of the nation's value added by manufacture was added by Maryland in certain years?

The Census of Manufactures provides statistics of manufacturing activity that are arranged by geographical area and by industry classification. Geographically the statistics are presented for:

I. The United States

A. The Division (Middle Atlantic, Etc.)

1. The State

a. The County

b. The standard Metropolitan Area

Industry-wise the Census follows the Standard Industrial Classification Code of the Bureau of the Budget with only a few minor exceptions. This code divides the manufacturing industry into:

I. The Major Industry Group (such as Food and Kindred Products)

A. The Subgroup (such as, Dairy Products)

1. The Industry (such as, natural cheese)

The Bureau of the Census is prohibited by law from publishing any statistics that disclose information reported by individual companies. Statistics, except number of establishment which is always shown, are withheld for less than three companies. Value figures are shown for three or more firms unless one or two of the companies produce a large proportion of the total value. Care is taken to prevent disclosure by subtraction, e.g. subtraction of the statistics shown for an industry in a city from the statistics for the county of which the city is a part, thus disclosing

data for one or two industries in the county.

Major industry groups and industry subgroups were not shown by state in the Censuses of 1921, 1929 and 1939. For 1939, however, the Census was reclassified by the Bureau of the Census for comparison with the 1947 Census of Manufactures. The study has, in addition, reclassified some of the data of the Censuses of 1921 and 1929 for use in comparing these earlier years with 1947. While the comparability of the industry groups in the earlier years with the industry groups of 1947 may not be completely accurate, the error is so slight as to have little effect upon the trends developed in this study.

The major industry groups in this study have been grouped into two broad categories; durable and non-durable goods producing industries. The concept of durable and non-durable industries is familiar enough to require no definition. However, while the existence of many borderline cases is admitted, the basic difference between these two classes of industry depends upon the relative time required to consume the goods produced by the industry. The accepted classification of industry groups into durable and non-durable categories lists the following industry groups in the former:

Lumber and Lumber Products (except Furniture)
Furniture and Fixtures
Stone, Clay and Glass Products
Primary Metals Industries
Fabricated Metal Products
Machinery (except electrical)
Electrical Machinery
Transportation Equipment
Instruments and Related Products
Miscellaneous Manufactures

Non-durable Industry Groups are as follows:

Food and Kindred Products
Tobacco Manufactures
Textile Mill Products

Non-durable industry groups (Contd.)

Apparel and Related Products
Paper and Allied Products
Printing and Publishing Industries
Chemicals and Allied Products
Petroleum and Coal Products
Rubber Products
Leather and Leather Products

Summary of Findings

This study represents an analysis of the statistics of the Census of Manufactures of 1947, and in the light of data from earlier censuses indicates trends in Maryland's economic development. In general the study finds that:

1. The manufacturing industry in Maryland weathered the depression more successfully than did the average manufacturer on a nation-wide basis.
2. The durable industries are providing the stabilizing economic base in Maryland in times of declining business activity.
3. The value added by manufacture per production worker in Maryland is greater than in some other states which in 1947 produced a greater total value added than did Maryland.
4. Maryland is slightly above the national average of 8.3% of the population employed as production workers in manufacturing; 8.5% of Maryland's population is so employed.
5. The manufacturing industry is concentrated in the Baltimore Metropolitan Area but Washington and Allegany Counties also contribute a significant portion of the manufactures produced in the State.
6. Comparing the rates of growth of different industry groups in the State with the same groups in the nation as a whole, it is evident that the most rapid rates of growth took place in the following industry groups: Primary Metals, Transportation Equipment, and Electrical Machinery.
7. The durable goods producing industries have been increasing in importance. Of these the Primary Metals Industry has made

the greatest strides since 1921, and the future expansion of the steel industry in the State should provide employment for a great many additional workers.

8. Maryland ranks high in the nation's production of the following products: fertilizer; tin cans and tinware; scientific instruments; umbrellas, parasols, and canes; men's and boys' clothing; ships and boats; brooms and brushes; and iron and steel.

With the great number of variations and developments in the economic life of the country and the State during the period 1921-1947, it is unfortunate that a complete record of annual changes is not available. The best that can be done, however, is to obtain an indication of the changes from one census to the next. This results in a sampling of economic development every few years. It is in this manner that the growth of manufactures in Maryland will be investigated.

CHAPTER II

THE MANUFACTURING INDUSTRY IN MARYLAND

Changes in U. S. Manufacturing

With 1921 as a base year equaling 100, the index of value added by manufacture in the U. S. rose to 179 in 1929, dropped to 142 in 1939 and in 1947 reached 432. The index of the number of establishments engaged in manufacturing, however, rose to only 114 in 1929, fell to 91 in 1939 and reached 139 in 1947. During this period the index of wages paid to production workers rose to 409 in 1947 while the number of production workers nearly doubled, the index standing at 186 in 1947.

The national pattern is one of an increasing number of production workers, rising wages and value added by manufacture. The fact that the number of establishments did not increase as rapidly as did the number of production workers, amount of wages and value added by manufacture, tends to show an increasing size of manufacturing unit. It is true that changes in the value of the dollar exagerate the effects of wage increases and value added by manufacture, nevertheless changes in the value of money have not been as great as the changes in wages and value added by manufacture, indicating a real change in these factors over the years.

Variation in this pattern of growth was evidenced during the depression years of the 30's. While the crucial years of the depression are now shown in this study, recovery was not yet complete in 1939 and the data for that year reflect conditions during the depression years. These figures show that the greatest decrease during the depression was in the number of establishments engaged in manufacturing. While wages, number of production workers and value added by manufacture fell below the 1929 level, they, nevertheless, showed a slight increase above 1921, itself a year of mild

depression. The number of establishments, however was smaller than in 1929 and also fell below the number of firms operating in the country in 1921. This difference in relative changes in number of establishments and number of workers indicates that the depression, much like the influenza epidemic of 1918, wiped out the weaker members of the population. The firms that failed were those least able to meet competition in an extended buyers market, as well as those with insufficient financial resources to operate at a loss over an extended period. This process left the strong and healthy to continue in the recovery period. Generally, the eliminated firms were the smaller establishments for the average size of establishment increased during the period 1921-1947.

The non-durable industries on a nation-wide basis were, as a group, more stable than were the durable industries. Durable industry was subject to more accentuated fluctuations, attaining higher peaks and lower troughs during the various cyclical variations in business. During the same period the non-durable industries exhibited a tendency toward stable amplitude variation during peak and trough periods. Despite the set backs suffered in the thirties, however, the long term picture was one of growth in all categories: number of manufacturing establishments, number of production workers, wages paid to these workers, value added by manufacture, and in the average size of establishment.

Comparison of Maryland with U.S.

Indexes for Maryland industries exhibit a pattern similar to that for the nation as a whole, but extreme variations are not as prevalent. Thus, while the various indexes of manufacturing activity in the U. S. show a decline in 1939 the same indexes for Maryland's manufacturing industry show a slight increase over 1929. This would also indicate that Maryland manu-

facturing weathered the depression better than the country in general. Tables 18 and 19 in the appendix show these indexes.

When these indexes of total manufacturing activity are broken down into indexes of durable and non-durable manufacturing, the relative stability of the non-durable industries for the U. S. is apparent. The Maryland durable goods industries exhibit a steady growth through 1939 rising rapidly in 1947. Table 1 compares the indexes of the number of production workers and value added by manufacture for the United States and Maryland for the census years between 1921 and 1947. Tables 2 and 3 show the same comparisons but are furthur divided into durable and non-durable industries.

TABLE 1

INDEXES OF
NUMBER OF PRODUCTION WORKERS AND VALUE ADDED BY MANUFACTURE
FOR MARYLAND AND THE UNITED STATES

Selected Years, 1921-1947
(1921 = 100)

	Number of Production Workers		Value Added by Manufacture	
	United States	Maryland	United States	Maryland
1921	100.0	100.0	100.0	100.0
1929	144.3	122.3	179.4	168.2
1939	122.0	132.1	142.3	171.0
1947	186.2	176.8	432.1	462.8

TABLE 2

INDEXES OF
NUMBER OF PRODUCTION WORKERS
BY DURABLE AND NON-DURABLE GOODS INDUSTRIES
FOR MARYLAND AND THE UNITED STATES

Selected Years, 1921-1947
(1921 = 100)

	Durable Industries		Non-Durable Industries	
	United States	Maryland	United States	Maryland
1921	100.0	100.0	100.0	100.0
1929	175.1	116.8	117.8	126.5
1939	123.8	140.7	120.5	125.9
1947	222.2	222.8	155.3	143.2

TABLE 3

INDEXES OF
VALUE ADDED BY MANUFACTURE
BY DURABLE AND NON-DURABLE GOODS INDUSTRIES
FOR MARYLAND AND THE UNITED STATES

Selected Years, 1921-1947
(1921 = 100)

	Durable Industries		Non-Durable Industries	
	United States	Maryland	United States	Maryland
1921	100.0	100.0	100.0	100.0
1929	235.1	175.3	135.8	164.1
1939	150.1	216.1	136.2	140.1
1947	500.4	600.0	379.1	380.9

The figures on the durable and non-durable industries for Maryland and the United States yield some very interesting relationships. First of all there is a complete reversal of the role of durable (and non-durable) industry for Maryland as compared to the rest of the nation. The data on production workers and value added by manufacture show that in the United States the durable industries decreased from 1929 to 1939 while the non-durable industries showed an increase in each census year. For Maryland the opposite was true: the durable industries increased at every census in the number of production workers and value added by manufacture while the effect of the depression years was evident in the decrease from 1929 to 1939 in the non-durable industries.

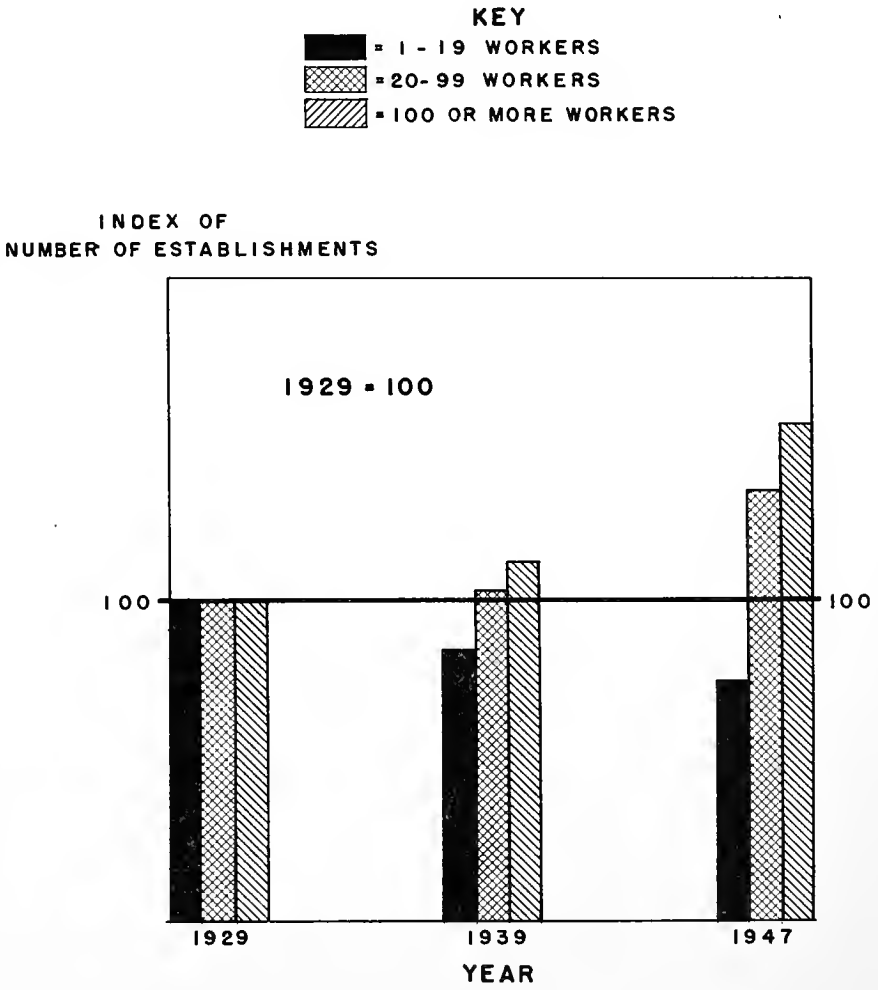
It would seem that in Maryland the durable industries are providing the stabilizing economic base in times of economic decline. For the country as a whole the non-durable industries perform this function. The reasons for this reversal of pattern are very difficult to ascertain but some deductions are possible. First of all the durable industry in Maryland is diversified and, secondly, the firms in the durable industries are large and stabilized. It is evident from Table 6 that Maryland firms in the

durable industries had substantially more production workers than the country as a whole for every census year except 1929.

The non-durable firms, on the other hand, have followed rather closely the pattern for the United States in the number of employees. This would tend to make the non-durable firms more susceptible than the durable industry to the dangers of cyclical fluctuation. In this connection it is interesting to note Table 4 which indicates that the smallest firms in Maryland have shown a decrease from 1929 in both 1939 and 1947 while the number of the largest size firms increased most during these years. It is thus evident that the mortality rate is greatest for the smallest firms. In addition to the fact that the firms in the non-durable field in Maryland were small, they also were in an exposed position due to the expansion program of these firms in the prosperity period. Note that the number of production workers and the value added by manufacture in the non-durable industries in Maryland definitely exceeded the increase for the United States in 1929. The combination of the above factors led to the decrease in the number of production workers and value added by manufacture in 1939 in Maryland while for the United States the corresponding figures showed increases.

In the number of establishments, Maryland showed a decrease between 1921 and 1947. Maryland manufacturing firms declined as shown in Table 5 to 90.5% of 1921 while establishments in the United States increased to 126.3% of 1921. The number of establishments engaged in non-durable goods manufacturing declined while the number of durable goods producers showed an increase over 1921 of 82.4% and 109.6% respectively. A similar pattern was set in the United States where the number of durable manufacturing companies in the nation experienced a larger increase over 1921 than did the non-durable goods manufacturers, 162.5% and 106.4%.

CHANGE IN NUMBER OF FIRMS IN MARYLAND BY SIZE OF ESTABLISHMENT SELECTED YEARS, 1929-1947



SIZE OF ESTABLISHMENT BY NUMBER OF WORKERS	NUMBER OF ESTABLISHMENTS YEAR 1929	1939	1947
1 - 19 WORKERS	2226	1839	1628
20- 99 WORKERS	634	649	848
100 OR MORE WORKERS	227	253	349

MARYLAND STATE PLANNING COMMISSION

TABLE 4

CHANGE IN THE NUMBER OF ESTABLISHMENTS
BY SIZE OF ESTABLISHMENT

MARYLAND, 1929-1947

Number Of Wage Earners	1929 Number Of Establishments	1939 Number Of Establishments	1939 Percent of 1929	1947 Number of Establishments	1947 Percent of 1929
1-20	2,226	1,839	83%	1,628	73%
21-100	634	649	102%	848	134%
Over 100	227	253	111%	349	154%

TABLE 5

INDEXES OF
NUMBER OF ESTABLISHMENTS
BY DURABLE AND NON-DURABLE GOODS INDUSTRIES
FOR MARYLAND AND THE UNITED STATES

Selected Years, 1921-1947
(1921 = 100)

	Durable Industries		Non-Durable Industries		Total	
	United States	Maryland	United States	Maryland	United States	Maryland
1921	100.0	100.0	100.0	100.0	100.0	100.0
1929	124.4	97.2	108.0	105.8	113.9	103.2
1939	89.1	83.4	92.3	88.5	91.2	86.9
1947	162.5	109.6	106.4	82.4	126.3	90.5

TABLE 6

AVERAGE NUMBER OF PRODUCTION WORKERS
PER MANUFACTURING ESTABLISHMENTS

Selected Years, 1921-1947

	Durable Industries		Non-Durable Industries		Total	
	United States	Maryland	United States	Maryland	United States	Maryland
1921	43.6	48.2	28.0	28.2	33.6	34.2
1929	61.4	57.9	28.4	33.7	40.7	40.5
1939	60.6	81.3	36.6	40.1	44.9	52.0
1947	59.7	102.4	40.9	49.0	49.5	66.8

The more rapid increase of the number of production workers and value added by manufacture as compared with the growth in number of establishments has resulted in larger sized firms. Note that Table 6 bears this out. The same results are shown in Table 4 where it is indicated that the number of larger firms is increasing while the number of small manufacturing firms is decreasing

While the size of Maryland non-durable goods manufacturers kept pace with the national average, size of Maryland durable goods producers was nearly double that of the United States in 1947 and exceeded the nationwide average in 1921 and 1939. This large difference is due to the influence of three industries: The primary metals industry group, the electrical machinery group and the transportation equipment group. Table 20 in the Appendix lists the average size of establishment for the United States and Maryland by industry groups.

Maryland's share of total number of establishments, total number of production workers, total wages paid and total value added by manufacture fluctuated around 1.5% for the four years studied. The number of establishments engaged in manufacturing in Maryland declined from 1.6% of the total number in the nation in 1921 to 1.2% of the United States in 1947. Maryland's share of production workers dropped slightly from 1.7% in 1921 to 1.6% in 1947, with a low of 1.4% in 1929; while wages paid to production workers stood at 1.5% both in 1921 and 1947. In the interim, value added by manufacture rose 0.1% from 1.4% to 1.5%, reaching a peak of 1.7% in 1939. Tables 7 through 10 illustrate these various percentages. Tables 21 through 24 in the Appendix shows the same relationship by industry groups.

TABLE 7

MARYLAND'S SHARE OF MANUFACTURING ESTABLISHMENTS
IN THE UNITED STATES

Selected Years, 1921-1947

	Number of Manufacturing Establishments		Percent of
	United States	Maryland	United States
1921	190,657	3,120	1.6
1929	217,078	3,220	1.5
1939	173,802	2,712	1.6
1947	240,801	2,825	1.2

TABLE 8

MARYLAND'S SHARE OF PRODUCTION WORKERS
IN THE UNITED STATES

Selected Years, 1921-1947

	Number of Production Workers		Percent of
	United States	Maryland	United States
1921	6,400,000	106,692	1.7
1929	9,233,000	130,534	1.4
1939	7,808,000	140,930	1.8
1947	11,918,000	188,639	1.6

TABLE 9

MARYLAND'S SHARE OF WAGES PAID TO PRODUCTION WORKERS
IN THE UNITED STATES

Selected Years, 1921-1947

	Wages to Production Workers		Percent of
	United States	Maryland	United States
1921	$ 7,388,000,000	$ 110,761,000	1.5
1929	12,207,000,000	148,021,000	1.2
1939	--	--	-
1947	30,248,000,000	457,704,000	1.5

TABLE 10

MARYLAND'S SHARE OF VALUE ADDED BY MANUFACTURE
IN THE UNITED STATES

Selected Years, 1921-1947

	Value Added by Manufacture		Percent of
	United States	Maryland	United States
1921	$ 17,210,000,000	$ 245,998,000	1.4
1929	30,868,000,000	413,803,000	1.3
1939	24,487,000,000	420,589,000	1.7
1947	74,364,000,000	1,138,407,000	1.5

Comparison of Maryland with Other States

With 141,000 production workers employed in 1939, Maryland ranked 15th among the forty-eight states and District of Columbia. Despite an absolute increase of 48,000 workers the State was surpassed by three other states in 1947 pushing Maryland down to 18th place. Maryland moved from 18th to 23rd place between 1939 and 1947 when ranked according to the number of establishments. This was due to the fact that the rate of increase for the United States was greater than Maryland's. The State maintained its place as 15th among the states in value added by manufacture. Tables 25, 26 and 27 in the Appendix show Maryland's relative position among the other states in 1939 and 1947.

The value added per production workers in Maryland was greater than in some other states with greater total value added by manufacture. This is indicated by the fact that Maryland maintained its standing with respect to value added by manufacture but lost standing in number of production workers.

Among the twenty states having the largest amounts of value added by manufacture, Maryland ranked 11th in value added per production worker as shown in Table 11.

TABLE 11

VALUE ADDED BY MANUFACTURE PER PRODUCTION WORKER
FOR THE TWENTY STATES LEADING IN
VALUE ADDED BY MANUFACTURE

State	Value added by Manufacture	Rank	Value Added Per Production Worker	Rank
New York	$ 9,666,588,000	1	$ 6,780	6
Pennsylvania	6,946,958,000	2	5,700	14
Illinois	6,680,137,000	3	7,000	4
Ohio	6,359,006,000	4	6,430	9
Michigan	5,196,338,000	5	6,320	10
New Jersey	4,177,080,000	6	6,940	5
California	3,994,981,000	7	7,530	1
Massachusetts	3,370,094,000	8	5,600	15
Indiana	2,977,508,000	9	6,510	8
Wisconsin	2,260,574,000	10	6,590	7
Connecticut	1,896,546,000	11	5,720	13
Texas	1,727,464,000	12	7,140	2
North Carolina	1,646,673,000	13	4,700	19
Missouri	1,623,145,000	14	6,020	12
MARYLAND	1,138,407,000	15	6,030	11
Virginia	1,051,629,000	16	5,530	16
Minnesota	1,022,586,000	17	7,040	3
Georgia	1,015,999,000	18	4,500	20
Tennessee	957,339,000	19	4,980	17
Alabama	876,933,000	20	4,720	18
United States	$ 74,425,825,000		$ 6,250	

Production workers engaged in manufacturing activities in the United States represented 8.3% of the total population in 1947. Rhode Island, with 16.8% of its population employed as production workers in manufacturing industries, leads the nation with the highest ratio of these workers to population. Following Rhode Island are Connecticut, 16.4%; New Jersey, 13.5%; Michigan, 13.1%; and Ohio, 12.7%. Maryland closely approximates the national average with 8.5% of its population engaged as production workers, and ranks 18th among the states. Table 12 lists the twenty states highest in percentage of production workers to population.

TABLE 12

STATES WITH THE HIGHEST PERCENTAGES OF POPULATION EMPLOYED AS PRODUCTION WORKERS, 1947

State	Percentage of Population Employed as Production Workers 1/	Rank
Rhode Island	16.8	1
Connecticut	16.4	2
New Jersey	13.5	3
Michigan	13.1	4
Ohio	12.7	5
Massachusetts	12.6	6
New Hampshire	12.0	7
Pennsylvania	11.8	8
Indiana	11.7	9
Texas	11.6	10
Illinois	11.5	11
Wisconsin	10.3	12
New York	10.1	13
Delaware	9.9	14
Maine	9.8	15
North Carolina	9.4	16
South Carolina	9.3	17
MARYLAND	8.5	18
Vermont	8.2	19
Missouri	7.0	20
United States	8.3	

Value added by manufacture totaled $1,138,407,000 in 1947 in the State of Maryland. Of this, $552,720,000 was value added by durable goods producing industries and $585,687,000 by non-durable goods manufacturers. Thus in 1947, the relative shares of total value added were fairly equally distributed between the durable and non-durable goods producers. The non-durable goods industries have been contributing a larger share of total value added by manufacture in the State but, as may be seen in Table 13, the gap between them has been narrowing.

1/ Percentages derived from average monthly employment in 1947 as shown in 1947 Census of Manufactures and population estimate as of January 1, 1948 of Sales Management.

TABLE 13

ALLOCATION OF TOTAL VALUE ADDED BY MANUFACTURE BETWEEN DURABLE AND NON-DURABLE INDUSTRIES, MARYLAND

Selected Years, 1921-1947

	1921	1929	1939	1947
Durable Goods	37.4%	39.0%	47.3%	48.6%
Non-Durable Goods	62.5	61.0	52.7	51.4
TOTAL	100.0	100.0	100.0	100.0

Leading Industries in Maryland

Using value added by manufacture as a means of measurement, Maryland's five leading industry groups in 1947 were the Food and Kindred Products, Primary Metals, Transportation Equipment, Chemicals and Allied Products, and Apparel and Related Products Groups. Table 28 in the Appendix lists the leading industries for 1921, 1929, 1939, and 1947. Tables 29 and 30 show the leading durable and non-durable goods producing industries in these years.

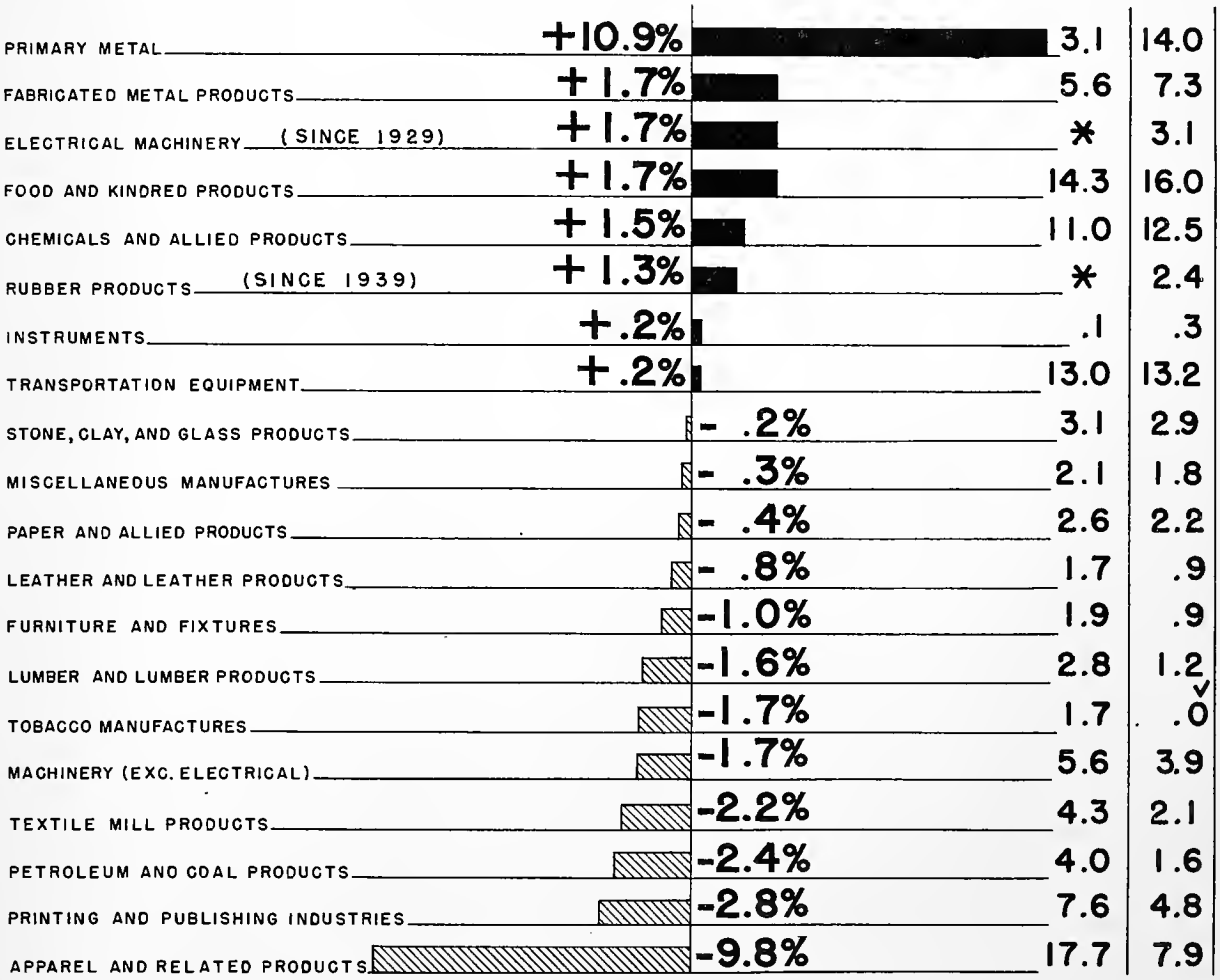
From these tables it is apparent that of the leading industries between 1921 and 1947 the Food, Transportation Equipment, and Chemicals Groups were most able to maintain their relative position; while the Apparel Group suffered a decline in importance and the Printing and Publishing Industry lost its standing among the first five industry groups. During this period the Primary Metals Industry rose to its present prominence. It should be noted that the two declines in importance were both by non-durable goods producing industries during a period marked by the ascent of the durable industries in importance. Examination of Table 30 listing the important non-durable goods producing industries shows a drop from first to third place by the Apparel Group between 1921 and 1947 and the maintenance of

its position in fourth place by the Printing and Publishing Group. The only major change is the disappearance of the Textile Mill Products Group from among the leading five industries to be replaced by a newcomer, the Rubber Products Industry.

When the changes of distribution of total value added by manufacture in the State between 1921 and 1947 are compared, it is seen that three of the five industries showing the largest relative gain are durable industries while four of the five industries registering the greatest loss are non-durable goods producers. Table 14 shows these changes. This table also shows that with the exception of the Transportation Equipment Group, the changes of the various industries were consistent during the period. That is, each industry has constantly grown, declined or remained at the same level, in contrast to an erratic movement from period to period. The Transportation Equipment group shows a loss of 5% of total value added in 1929 but regains its old position by 1947. Between 1921 and 1929 the Primary Metal Group increased its share of total value added 10.9& and is the group that registers the most spectacular increase. Eight industries showed an increase in chare of value added in 1947 over 1921. These increases ranging from 0.2% to the 10.9% increase of Primary Metal Group. Twelve groups registered decreases of from 0.2% to 9.8%. The Apparel and Related Products Group was the group to suffer this large decline of 9.8%.

The pattern of the Primary Metal Group is interesting for this group's share increased to 7.5% in 1929 and jumped further to 17.2% in 1939 which seems to indicate that this group is relatively more stable in a depressed period than are the other industry groups in Maryland, although only one group underwent a major decline at that time. This group which is the Apparel Group, declined in share of value added from 13.7% to 8.5%

DISTRIBUTION OF VALUE ADDED BY MANUFACTURE IN MARYLAND BY INDUSTRY GROUP 1921 AND 1947



INDUSTRY GROUP	CHANGE FROM 1921 TO 1947	1921	1947
PRIMARY METAL	+10.9%	3.1	14.0
FABRICATED METAL PRODUCTS	+1.7%	5.6	7.3
ELECTRICAL MACHINERY (SINCE 1929)	+1.7%	*	3.1
FOOD AND KINDRED PRODUCTS	+1.7%	14.3	16.0
CHEMICALS AND ALLIED PRODUCTS	+1.5%	11.0	12.5
RUBBER PRODUCTS (SINCE 1939)	+1.3%	*	2.4
INSTRUMENTS	+.2%	.1	.3
TRANSPORTATION EQUIPMENT	+.2%	13.0	13.2
STONE, CLAY, AND GLASS PRODUCTS	- .2%	3.1	2.9
MISCELLANEOUS MANUFACTURES	- .3%	2.1	1.8
PAPER AND ALLIED PRODUCTS	- .4%	2.6	2.2
LEATHER AND LEATHER PRODUCTS	- .8%	1.7	.9
FURNITURE AND FIXTURES	-1.0%	1.9	.9
LUMBER AND LUMBER PRODUCTS	-1.6%	2.8	1.2
TOBACCO MANUFACTURES	-1.7%	1.7	0✓
MACHINERY (EXC. ELECTRICAL)	-1.7%	5.6	3.9
TEXTILE MILL PRODUCTS	-2.2%	4.3	2.1
PETROLEUM AND COAL PRODUCTS	-2.4%	4.0	1.6
PRINTING AND PUBLISHING INDUSTRIES	-2.8%	7.6	4.8
APPAREL AND RELATED PRODUCTS	-9.8%	17.7	7.9
TOTAL		100%	100%

NOTE:
0✓ = LESS THAN .05
* = DATA WITHHELD BY BUREAU OF CENSUS

MARYLAND STATE PLANNING COMMISSION

TABLE 14

DISTRIBUTION OF VALUE ADDED BY MANUFACTURE

MARYLAND, SELECTED YEARS 1921-1947

Industry	Share of Total Value Added 1921	1929	1939	1947	Change 1921-1947
Primary Metal	3.1%	7.5%	17.2%	14.0%	+10.9%
Fabricated Metal Products	5.6	7.5	7.3	7.3	+ 1.7
Electrical Machinery	-	1.4	2.8	3.1	+ 1.7 (Since 1929)
Food and Kindred Products	14.3	18.3	16.4	16.0	+ 1.7
Chemicals and Allied Products	11.0	10.7	13.7	12.5	+ 1.5
Rubber Products	-	-	1.1	2.4	+ 1.3 (Since 1939)
Instruments	.05	.07	.2	.3	+ .25
Transportation Equipment	13.0	7.9	9.7	13.2	+ .2
Stone, Clay and Glass Products	3.1	3.3	3.2	2.9	- .2
Miscellaneous Manufactures	2.1	2.0	1.9	1.8	- .3
Paper and Allied Products	2.6	1.9	2.0	2.2	- .4
Leather and Leather Products	1.7	1.9	1.1	.9	- .8
Furniture and Fixtures	1.9	2.2	.9	.9	- 1.0
Lumber and Lumber Products	2.8	2.4	1.3	1.2	- 1.6
Tobacco Manufactures	1.7	.2	.06	.04	- 1.66
Machinery (Except Electrical)	5.6	4.7	2.7	3.9	- 1.7
Textile Mill Products	4.3	3.0	2.5	2.1	- 2.2
Petroleum and Coal Products	4.0	3.0	2.1	1.6	- 2.4
Printing and Publishing Industries	7.6	7.9	5.2	4.8	- 2.8
Apparel and Related Products	17.7	13.7	8.5	7.9	- 9.8
STATE	100.0%	100.0%	100.0%	100.0%	

between 1929 and 1939. The changes brought about in the clothing industry during the depression, such as the effect of the short-lived NRA and the impact of NLRB rulings, may account for this loss in importance.

Value added by manufacture in 1947 by Maryland manufacturers amounted to 1.5% of the value added in the United States in this year. Individual major industry group's shares of the national group's totals

varied from the .06% added by the Tobacco Manufacturers Group to the high share of 2.8% accomplished by the Primary Metals Group. Tables 21 through 24 show the relationship of each major group in the state to the equivalent group in the United States as a whole for the years 1921,1929,1939, and 1947.

The five industry groups with the largest percentage of value added by manufacture relative to their national standing have been ranked with the same industries in other states, which have a large percentage of national value added accruing to them. Table 31 in the Appendix shows this ranking.

It must be kept in mind that this table is a comparison of major industry groups, not of sub-groups or of individual industries. Thus, Michigan leads in value added by manufacture of transportation equipment but has a low rank in the manufacture of ships and boats; a division of the transportation equipment group in which Maryland ranks fourth among the other states. New Jersey leads in the manufacture of chemicals and allied products, but the largest amount of value added by the manufacture of fertilizer was added by Maryland. Table 32 in the Appendix illustrates Maryland's position in the United States in the manufacture of various products.

From this table it is seen that Maryland is first in the fertilizer industry; third in tin cans and tinware; fourth in scientific instruments, umbrellas, parasols and canes; fifth in men's and boy's clothing, and ships and boats; and sixth in the manufacture of brooms and brushes.

It is unfortunate that the census figures for the iron and steel industry in Maryland are not available. Because there are fewer than four firms in the State engaged in the manufacture of iron and steel,

the data are not divulged. However, this industry would certainly be listed among the leaders if the information were available. The iron and steel industry also figures prominently in the future development of industry in the State. A previous study completed by the Commission[1/] indicated the possibility of 10,000 new jobs resulting from an expansion of the steel industry. With the recent announcement of a $75,000,000 expansion program to be undertaken at Sparrows Point, the realization of this forecast may not be too far distant.

The fertilizer industry is concentrated in the South Atlantic States. Nearly fifty per cent of the total value added by manufacture was provided by these states. And of this amount about twenty-five per cent was added by Maryland producers.

Of the total value added by manufacture in the ship and boat industry slightly over one-half was contributed by five states. Of this, one-fifth accrued to Maryland manufacturers. Two states accounted for forty-five per cent of the total value added in the manufacture of men's and boy's clothing while five other states, including Maryland, contributed about equally to twenty-five per cent of the nation's total. Maryland, ranking third in the production of tin cans and tinware, approximated California's volume and produced about two-fifths as much as the leader, Illinois. These three states between them added fifty per cent of the total value added in this industry.

Tobacco Manufactures. Attention must also be given to Maryland's weaknesses. Tobacco manufactures in the State amounted to only .06% of the

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1/ Maryland State Planning Commission, Survey of the Impact of F.O.B. Mill Pricing on Maryland Manufacturers, November 1949.

national total and has undergone a decline in importance within the State since 1921. Among the states, Maryland ranks thirteenth in value added by tobacco manufacture. Proximity to production materials is a major factor in this industry yet more northern and western states such as New York and Michigan greatly exceed the State in the value of tobacco manufactures.

Instruments. While Maryland is a leading producer of scientific instruments it is only fourteenth in production of instruments in general. Such products as mechanical measuring and controlling instruments, optical instruments and lenses, surgical, medical and dental instruments, ophthalmic goods, photographic equipment and watches and clocks are not produced in any important amounts in Maryland. Highly skilled labor seems to be the most important production factor in this industry. It is possible that while skilled workmen are abundant in Maryland a tradition of precision craftsmanship such as is found in some New England watchmaking centers is not strong enough in the State to attract some of the industries listed that require precision production techniques. However, it is doubtful with the present state of mass production processes that all of the above industries require a large core of highly skilled workers.

Lumber. The Lumber and Products Industry Group in Maryland accounts for only .5% of the national total of value added by manufacture of this group. Maryland ranks thirty-third among the states in this industry. It is doubtful if much could be done to improve the State's position because of the comparative lack of production materials.

Textiles. The State stands twenty-second in the production of textile mill products. Maryland's textile industry while only producing

.5% of the national production is well established and capable of expansion by both increasing domestic production and attracting new industry. The industry's migration to the South has not always resulted in a satisfactory solution to management's problems chiefly because of an unreliable labor force. Maryland's labor supply, which has long been adapted to mass production methods and disciplines, should, be a strong selling-point to present to dissatisfied textile manufacturers.

Machinery (Except Electrical). The production of machinery (except electrical machinery) in Maryland accounts for .6% of the total value added by manufacture in the nation. Maryland ranks seventeenth in this industry. The industry is strong in the State and because of the desirable production factors present in the State there should be efforts made to capture a larger share of the national production of machinery.

The above five industry groups are those Maryland industries which showed the lowest percentages of U. S. production in 1947. Only one of these groups seems to offer little if any possibility of expansion. To diversify and strengthen Maryland industry, even more efforts should be made to expand the remaining four groups.

Concentration of Industry in the Baltimore Metropolitan Area

The census of Manufactures does not give detailed statistics for the individual counties of Maryland, but several interesting conclusions about concentration of industry in Maryland can be drawn from the data that are available.

The Baltimore Metropolitan Area comprises Baltimore City, Baltimore County and Anne Arundel County. In this area is found 63.2% of the manufacturing establishments in the State. These establishments employ 73.6% of the State's manufacturing production workers and account for 79.0% of the total value added by manufacture in 1947 in Maryland. With value added by manufacture as a measure, the durable goods producing industries are economically more heavily concentrated in the Baltimore Metropolitan Area than are the non-durable goods producers. Table 15 illustrates this concentration. The durable industries in this area account for 88.4% of the total value added by durable goods manufacturers in Maryland while the non-durable industries of the Metropolitan Area added 73.1% of the total value added by manufacture. However, 64.2% of the total non-durable goods establishments as compared with 61.4% of the durable establishments were located in the Metropolitan Area.

The concentration (in value added) was greater than 50% in all industry groups save in the Lumber and Products, except Furniture Group, where 45.5% of the total value added by manufacturers was added in the Baltimore Metropolitan Area and the Leather and Leather Products Group (47.0%). The latter group was also third smallest in percentage of workers employed in the Metropolitan Area, the Petroleum and Coal Products Group being low group with only 22.6% of its employees in the Baltimore Metropolitan Area.

The highest concentration of value added by manufacture was that of the Primary Metals Group (97.9%) followed closely by Electrical Machinery (96.4%), the Fabricated Metal Products Group (94.1%) and the Printing and Publishing Industry Group (90.3%).

TABLE 15

COMPARISON OF STATE WITH

BALTIMORE METROPOLITAN AREA, 1947

Durable Industries	Number of Establishments			Production Workers			Value Added (in thousands)		
	State	Baltimore Metro.Area	Per Cent	State	Baltimore Metro.Area	Per Cent	State	Baltimore Metro.Area	Per Cent
Lumber and Products, Except Furniture	227	53	23.3	3,946	1,438	36.4	13,112	5,962	45.5
Furniture and Fixtures	92	77	83.7	2,330	1,740	74.7	10,070	7,510	74.6
Stone, Clay and Glass Products	160	66	41.3	5,994	4,115	68.7	33,472	23,169	69.2
Primary Metal Industries	48	38	79.2	26,521	25,639	96.7	158,832	155,559	97.9
Fabricated Metal Products	155	131	84.5	14,686	13,688	93.2	83,150	78,225	94.1
Machinery (Except Electrical)	130	106	81.5	8,123	6,349	78.2	44,269	34,499	77.9
Electrical Machinery	25	18	72.0	6,107	5,743	94.0	34,812	33,542	96.4
Transportation Equipment	62	45	72.6	27,515	24,193	87.9	150,823	N.A.	-
Instruments and Related Products	24	18	75.0	657	N.A.	-	3,680	N.A.	-
Miscellaneous Manufactures	103	78	75.7	4,626	2,665	57.6	20,500	13,380	65.3
Durable Total	1,026	630	61.4	99,848 1/	85,570	85.7	398,217 2/	351,846	88.4

(Continued)

TABLE 15 (Continued)

COMPARISON OF STATE WITH

BALTIMORE METROPOLITAN AREA, 1947

Non-Durable Industries	Number of Establishments			Production Workers			Value Added (in thousands)		
	State	Baltimore Metro.Area	Per Cent	State	Baltimore Metro.Area	Per Cent	State	Baltimore Metro.Area	Per Cent
Food and Kindred Products	705	332	47.1	25,842	15,573	60.3	189,436	144,210	76.1
Tobacco Manufactures	5	2	40.0	151	N.A.	-	401	N.A.	-
Textile Mill Products	48	19	39.6	5,421	2,579	47.6	24,517	12,483	50.9
Apparel and Related Products	417	341	81.8	21,274	14,653	68.9	93,695	76,891	82.1
Paper and Allied Products	49	39	79.6	4,770	2,481	52.0	25,262	14,723	58.3
Printing and Publishing Industries	338	245	72.5	6,607	5,902	89.3	54,241	49,000	90.3
Chemicals and Allied Products	180	136	75.6	14,305	7,347	51.4	142,559	92,644	65.0
Petroleum and Coal Products	16	15	93.8	1,955	1,953	99.9	18,016	N.A.	-
Rubber Products	13	7	53.8	4,789	1,080	22.6	27,088	N.A.	-
Leather and Leather Products	28	19	67.9	3,020	1,163	38.5	10,422	4,894	47.0
Non-Durable Total	1,799	1,155	64.2	87,983 3/	52,731	59.9	540,182 4/	394,845	73.1
TOTAL	2,825	1,785	63.2	188,639 5/	138,810 5/	73.6	1,138,407 5/	899,534 5/	79.0

Source: Census of Manufactures, 1947.

1/ Does not include Instruments and Related Products.
2/ Does not include Transportation Equipment and Instruments and Related Products.
3/ Does not include Tobacco Manufactures.
4/ Does not include Tobacco Manufactures, Petroleum and Coal Products, and Rubber Products.
5/ Includes all Industry Groups.

Comparison of Maryland Counties

Table 16 shows a number of relationships, both inter and intra-county in scope. First, the counties have been ranked by the number of manufacturing establishments. The number of establishments in each county has been broken down into the number of firms employing 1-19 persons, the number employing 20-29 persons and those employing over 100 workers. Two percentages are shown. The number of firms in each size group is expressed as a percentage of the total number of firms in each county. And the number of firms in each county is expressed as a percentage of the number of establishments in the State.

Baltimore City, as is seen in this table, is the home of 58% of the manufacturing establishments in the State. The remaining 42% is distributed throughout the twenty-three counties of Maryland; the distribution ranging from 112 firms or 4.0% in Washington County to nine firms or 0.3% of the State, in Calvert County. Geographically, the counties with the largest number of manufacturers are in central Maryland, although Caroline, Dorchester, Wicomico and Worcester counties largely due to the influence of packing and canning plants, are among the leading counties.

An analysis was made to determine the relationship between the number of firms in a county as related to the size of firms. It was found that the two go together. That is those counties which contained a large number of manufacturing establishments were most likely to be the location for large manufacturing firms (firms employing 100 or more). While the counties which had the smallest number of establishments were also the location for the smallest size firms.

Table 16 shows the distribution of firms throughout the counties. This distribution seems to be fairly even for no one county greatly exceeds

TABLE 16

NUMBER OF MANUFACTURING ESTABLISHMENTS IN MARYLAND

BY COUNTY AND SIZE OF ESTABLISHMENT

1947

County	Rank	1-19 Employees	Per cent of County	20-99 Employees	Per cent of County	Over 100 Employees	Per cent of County	Total	Per cent of State
Baltimore City	1	898	55	522	32	218	13	1,638	58.0
Washington	2	63	56	30	27	19	17	112	4.0
Baltimore County	3	52	54	22	23	23	23	97	3.4
Wicomico	4	48	50	35	36	13	14	96	3.4
Carroll	5	48	56	27	32	10	12	85	3.0
Frederick	6	42	54	28	36	8	10	78	2.8
Dorchester	7	33	49	28	41	7	10	68	2.4
Worcester	8	41	65	19	30	3	5	63	2.2
Caroline	9	36	58	19	31	7	11	62	2.2
Montgomery	10	44	72	14	23	3	5	61	2.2
Prince George's	11	43	72	13	22	4	7	60	2.1
Allegany	12	31	52	16	27	13	22	60	2.1
Harford	13	39	68	16	28	2	4	57	2.0
Anne Arundel	14	40	80	5	10	5	10	50	1.8
Somerset	15	29	67	12	28	2	5	43	1.5
Talbot	16	29	69	12	29	1	2	42	1.5
Cecil	17	26	72	5	14	5	14	36	1.3
Garrett	18	18	82	3	14	1	4	22	.8
St. Mary's	19	19	90	2	10	0	0	21	.7
Kent	20	9	50	7	39	2	11	18	.6
Queen Anne's	21	10	63	6	37	0	0	16	.6
Howard	22	9	56	5	31	2	13	16	.6
Charles	23	13	87	2	13	0	0	15	.5
Calvert	24	8	89	0	0	1	11	9	.3
STATE		1,628	58	848	30	349	12	2,825	100.0

Source: Census of Manufactures, 1947.

TABLE 17

VALUE ADDED BY MANUFACTURE BY COUNTY

MARYLAND, 1947

County	Rank	Value Added	Per cent of State
Baltimore City	1	$ 667,323,000	58.6
Baltimore County	2	225,799,000	19.8
Allegany	3	86,262,000	7.6
Washington	4	46,320,000	4.1
Carroll	5	17,601,000	1.5
Dorchester	6	13,352,000	1.2
Wicomico	7	13,129,000	1.2
Frederick	8	12,130,000	1.1
Caroline	9	6,605,000	.6
Montgomery	10	6,581,000	.6
Anne Arundel	11	6,412,000	.6
Prince George's	12	6,260,000	.5
Harford	13	5,543,000	.5
Cecil	14	5,463,000	.5
Worcester	15	5,423,000	.5
Somerset	16	3,240,000	.3
Talbot	17	3,185,000	.3
Howard	18	3,088,000	.3
Kent	19	1,488,000	.1
Garrett	20	1,254,000	.1
Queen Anne's	21	728,000	1/
Calvert	22	455,000	1/
Charles	23	400,000	1/
St. Mary's	24	366,000	1/
STATE		$ 1,138,407,000	100.0

another county. However a distribution of value added by manufacture throughout the counties as in Table 17 presents a different picture.

Baltimore City and three counties, Baltimore, Allegany, and Washington, account for 90.1% of the value added by manufacture in the State. Yet these same four areas harbor only 67.5% of the manufacturing establishments. Sixteen counties individually produced less than one per cent of

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1/ Less than 0.1%.

the total value added while four counties (three Southern Maryland and one Eastern Shore) produced less than one tenth of one per cent apiece.

Obviously, the center of manufacturing lies in Baltimore City and County. The largest percentage of manufacturing establishments is centered here. And these firms are more important on the average from the standpoint of value added than are the firms in the rest of Maryland. Two other counties, Allegany and Washington, also exhibit manufacturing strength at present, but other areas also possess the potential for the further development of industry.

APPENDIX

TABLE 18

VARIOUS MANUFACTURING STATISTICS AND INDEXES FOR THE UNITED STATES

SELECTED YEARS, 1921 - 1947

	1921	Index	1929	Index	1939	Index	1947	Index
Number of Establishments								
Total	190,657	100	217,078	113.9	173,802	91.2	240,801	126.3
Durable Goods Industries	67,746	100	84,284	124.4	60,335	89.1	110,063	162.5
Non-Durable Goods Industries	122,911	100	132,794	108.0	113,467	92.3	130,738	106.4
Number of Production Workers								
Total	6,400,083	100	9,232,944	144.3	7,808 1/	122.0	11,918 1/	186.2
Durable Goods Industries	2,955,488	100	5,175,683	175.1	3,658 1/	123.8	6,567 1/	222.2
Non-Durable Goods Industries	3,444,595	100	4,057,261	117.8	4,150 1/	120.5	5,351 1/	155.3
Wages								
Total	7,388,405 2/	100	12,206,722 2/	165.2	N. A.	--	30,248 3/	409.4
Durable Goods Industries	3,598,661 2/	100	7,430,391 2/	206.5	N. A.	--	17,566 3/	488.1
Non-Durable Goods Industries	3,789,744 2/	100	4,776,331 2/	126.0	N. A.	--	12,682 3/	334.6
Value Added								
Total	17,209,955 2/	100	30,867,514 2/	179.4	24,487 3/	142.3	74,364 3/	432.1
Durable Goods Industries	7,520,134 2/	100	17,710,036 2/	235.5	11,290 3/	150.1	37,633 3/	500.4
Non-Durable Goods Industries	9,689,821 2/	100	13,157,478 2/	135.8	13,197 3/	136.2	36,731 3/	379.1

1/ In thousands of workers.
2/ In thousands of dollars.
3/ In millions of dollars.

TABLE 19

VARIOUS MANUFACTURING STATISTICS FOR MARYLAND

SELECTED YEARS, 1921 - 1947

	1921 1/	Index	1929 1/	Index	1939	Index	1947	Index
Number of Establishments								
Total	3,120	100	3,220	103.2	2,712	86.9	2,825	90.5
Durable Goods Industries	936	100	910	97.2	781	83.4	1,026	109.6
Non-Durable Goods Industries	2,182	100	2,309	105.8	1,931	88.5	1,799	82.4
Number of Production Workers								
Total	106,692	100	130,534	122.3	140,930	132.1	188,639	176.8
Durable Goods Industries	45,105	100	52,676	116.8	63,460	140.7	100,505	222.8
Non-Durable Goods Industries	61,533	100	77,856	126.5	77,470	125.9	88,134	143.2
Wages								
Total	110,760,516	100	148,021,351	133.6	N. A.	--	457,704 2/	413.2
Durable Goods Industries	60,913,219	100	90,688,084	148.9	N. A.	--	269,394 2/	442.3
Non-Durable Goods Industries	49,847,297	100	57,333,267	115.0	N. A.	--	188,310 2/	377.8
Value Added 2/								
Total	245,998	100	413,803	168.2	420,589	171.0	1,138,407	462.8
Durable Goods Industries	92,113	100	161,486	175.3	199,064	216.1	552,720	600.0
Non-Durable Goods Industries	153,750	100	252,317	164.1	221,525	140.1	585,687	380.9

1/ Due to the adjustments referred to in the text the sum of those statistics for durable and non-durable industries will not necessarily agree with the total figure shown in 1921 and 1929.

2/ In thousands of dollars.

TABLE 20

AVERAGE NUMBER OF PRODUCTION WORKERS PER ESTABLISHMENT
IN MARYLAND AND UNITED STATES BY INDUSTRY

SELECTED YEARS, 1921 -1947

	No. of Workers, 1921		No. of Workers, 1929		No. of Workers, 1939		No. of Workers, 1947	
	U.S.	Md.	U.S.	Md.	U.S.	Md.	U.S.	Md.
Durable Industries								
Lumber and Products, Except Furniture	31.5	16.6	28.8	19.7	32.0	20.3	22.8	17.4
Furniture and Fixtures	32.8	28.9	39.9	33.9	36.5	24.6	36.8	25.3
Stone, Clay and Glass Products	30.5	24.6	38.1	35.9	40.0	32.8	34.8	37.5
Primary Metal Industries	64.3	85.0	115.6	151.9	191.3	489.1	188.3	552.5
Fabricated Metal Products	47.9	59.6	54.7	90.5	47.3	66.5	49.1	94.7
Machinery (Except Electrical)	43.7	39.6	70.4	43.2	60.5	48.3	69.5	62.5
Electrical Machinery	120.5	N.A.	184.4	73.5	125.3	143.3	160.8	244.3
Transportation Equipment	95.0	211.4	202.5	212.1	270.9	320.6	265.8	443.8
Instruments and Related Products	42.2	9.2	73.9	15.0	65.8	25.0	70.0	27.4
Miscellaneous Manufacture	26.5	31.5	22.8	42.8	29.9	39.6	28.1	44.9
TOTAL	43.6	48.2	61.4	57.9	60.6	81.3	59.7	102.4
Non-Durable Industries								
Food and Kindred Products	12.1	12.2	13.4	17.5	18.4	24.6	27.5	36.7
Tobacco Manufactures	34.3	48.4	64.9	27.8	115.0	25.9	95.7	30.2
Textile Mill Products	131.6	122.1	151.1	133.7	169.2	122.4	141.4	112.9
Apparel and Related Products	25.7	43.5	26.5	53.5	37.1	51.3	31.5	51.0
Paper and Allied Products	71.9	106.5	77.0	83.2	81.1	78.5	94.8	97.3
Printing and Publishing Industries	12.6	15.2	13.1	18.0	13.0	15.9	15.1	19.5
Chemicals and Allied Products	25.9	37.5	33.0	52.3	31.2	77.4	46.4	79.5
Petroleum and Coal Products	125.1	179.3	121.0	92.2	88.0	70.7	122.6	122.2
Rubber Products	208.2	N.A.	284.1	N.A.	203.4	106.5	245.7	368.4
Leather and Leather Products	58.1	60.0	74.3	125.7	93.3	124.0	65.8	107.9
TOTAL	28.0	28.2	28.4	33.7	36.6	40.1	40.9	49.0

TABLE 21

VARIOUS MANUFACTURING STATISTICS FOR MARYLAND AND THE UNITED STATES BY INDUSTRY

NUMBER OF ESTABLISHMENTS

	Selected Years					
	1921			1929		
Durable Industries	U.S.	State	% of U.S.	U.S.	State	% of U.S.
Lumber and Products, Except Furniture	16,548	252	1.5	20,928	240	1.1
Furniture and Fixtures	4,326	77	1.8	5,491	99	1.8
Stone, Clay and Glass Products	8,227	160	1.9	8,688	136	1.6
Primary Metal Industries	6,652	46	.7	9,081	44	.5
Fabricated Metal Products	6,654	108	1.6	9,007	103	1.1
Machinery (Except Electrical)	9,693	129	1.3	11,393	127	1.1
Electrical Machinery	1,487	-	-	1,861	15	.8
Transportation Equipment	4,273	79	1.8	4,847	65	1.3
Instruments and Related Products	1,592	5	.3	1,109	5	.5
Miscellaneous Manufacture	8,294	78	.9	11,879	76	.6
TOTAL	67,746	936	1.4	84,284	910	1.1
Non-Durable Industries						
Food and Kindred Products	51,502	1,021	2.0	55,325	1,115	2.0
Tobacco Manufactures	4,372	50	1.1	1,788	21	1.2
Textile Mill Products	7,695	56	.7	7,415	50	.7
Apparel and Related Products	20,049	513	2.6	22,870	513	2.2
Paper and Allied Products	2,511	37	1.5	2,973	41	1.4
Printing and Publishing Industries	22,559	318	1.4	27,364	369	1.3
Chemicals and Allied Products	8,208	144	1.8	9,327	154	1.7
Petroleum and Coal Products	692	6	.9	922	16	1.7
Rubber Products	496	-	-	525	-	-
Leather and Leather Products	4,827	37	.8	4,285	29	.7
TOTAL	122,911	2,182	1.8	132,794	2,309	1.7

TABLE 21 (Contd.)

VARIOUS MANUFACTURING STATISTICS FOR MARYLAND AND THE UNITED STATES BY INDUSTRY

NUMBER OF ESTABLISHMENTS

	Selected Years					
	1939			1947		
Durable Industries	U.S.	State	% of U.S.	U.S.	State	% of U.S.
Lumber and Products, Except Furniture	13,208	142	1.1	26,324	227	.9
Furniture and Fixtures	5,178	80	1.5	7,687	92	1.2
Stone, Clay and Glass Products	6,678	135	2.0	11,650	160	1.4
Primary Metal Industries	3,512	41	1.2	5,363	48	.9
Fabricated Metal Products	9,532	143	1.5	16,729	155	.9
Machinery (Except Electrical)	8,860	70	.8	17,907	130	.7
Electrical Machinery	1,979	14	.7	3,973	25	.6
Transportation Equipment	2,012	47	2.3	3,706	62	1.7
Instruments and Related Products	1,292	11	.9	2,599	24	.9
Miscellaneous Manufacture	8,084	98	1.2	14,125	103	.7
TOTAL	60,335	781	1.3	110,063	1,026	.9
Non-Durable Industries						
Food and Kindred Products	43,667	814	1.9	39,904	705	1.8
Tobacco Manufactures	765	7	.9	1,087	5	.5
Textile Mill Products	6,388	49	.8	8,110	48	.6
Apparel and Related Products	20,275	462	2.3	30,905	417	1.3
Paper and Allied Products	3,328	45	1.4	4,103	49	1.2
Printing and Publishing Industries	24,878	333	1.3	28,987	338	1.2
Chemicals and Allied Products	8,839	156	1.8	10,073	180	1.8
Petroleum and Coal Products	1,227	21	1.7	1,387	16	1.2
Rubber Products	595	17	2.9	875	13	1.5
Leather and Leather Products	3,505	27	.8	5,307	28	.5
TOTAL	113,467	1,931	1.7	130,738	1,799	1.4

TABLE 22

VARIOUS MANUFACTURING STATISTICS FOR MARYLAND AND THE UNITED STATES BY INDUSTRY

NUMBER OF PRODUCTION WORKERS

	Selected Years					
	1921			1929		
Durable Industries	U.S.	State	% of U.S.	U.S.	State	% of U.S.
Lumber and Products, Except Furniture	520,731	4,192	.8	603,426	4,727	.8
Furniture and Fixtures	142,020	2,228	1.6	219,328	3,354	1.5
Stone, Clay and Glass Products	251,157	3,942	1.6	330,708	4,889	1.5
Primary Metal Industries	427,547	3,908	.9	1,049,595	6,683	.6
Fabricated Metal Products	318,856	6,433	2.0	492,558	9,324	1.9
Machinery (Except Electrical)	423,252	5,105	1.2	802,168	5,484	.7
Electrical Machinery	179,142	-	-	343,138	1,102	.3
Transportation Equipment	405,773	16,697	4.1	981,511	13,789	1.4
Instruments and Related Products	67,218	46	-- 1/	81,905	75	.1
Miscellaneous Manufacture	219,792	2,454	1.1	271,346	3,255	1.2
TOTAL	2,955,488	45,105	1.5	5,175,683	52,676	1.0
Non-Durable Industries						
Food and Kindred Products	620,750	12,457	2.0	740,937	19,538	2.6
Tobacco Manufactures	149,985	2,422	1.6	116,119	584	.5
Textile Mill Products	1,012,384	6,840	.7	1,120,200	6,686	.6
Apparel and Related Products	514,666	22,338	4.3	606,087	27,426	4.5
Paper and Allied Products	180,604	3,941	2.2	228,919	3,413	1.5
Printing and Publishing Industries	283,768	4,835	1.7	358,438	6,635	1.9
Chemicals and Allied Products	212,264	5,405	2.5	307,387	8,048	2.6
Petroleum and Coal Products	86,538	1,076	1.2	111,554	1,475	1.3
Rubber Products	103,273	-	-	149,148	-	-
Leather and Leather Products	280,363	2,219	.8	318,472	3,645	1.1
TOTAL	3,444,595	61,533	1.8	4,057,261	77,856	1.9

1/ Less than 0.1%

TABLE 22 (Contd.)

VARIOUS MANUFACTURING STATISTICS FOR MARYLAND AND THE UNITED STATED BY INDUSTRY

NUMBER OF PRODUCTION WORKERS

	Selected Years					
	1939			1947		
Durable Industries	U.S. 1/	State	% of U.S.	U.S. 1/	State	% of U.S.
Lumber and Products, Except Furniture	423	2,882	.7	599	3,946	.7
Furniture and Fixtures	189	1,971	1.0	283	2,330	.8
Stone, Clay and Glass Products	267	4,433	1.7	406	5,994	1.5
Primary Metal Industries	672	20,055	3.0	1,010	26,521	2.6
Fabricated Metal Products	451	9,506	2.1	822	14,686	1.8
Machinery (Except Electrical)	536	3,383	.6	1,244	8,123	.7
Electrical Machinery	248	2,006	.8	639	6,107	1.0
Transportation Equipment	545	15,066	2.8	985	27,515	2.8
Instruments and Related Products	85	275	.3	182	657	.4
Miscellaneous Manufacture	242	3,883	1.6	397	4,626	1.2
TOTAL	3,658	63,460	1.7	6,567	100,505	1.5
Non-Durable Industries						
Food and Kindred Products	802	20,052	2.5	1,098	25,842	2.4
Tobacco Manufactures	88	181	.2	104	151	.1
Textile Mill Products	1,081	5,999	.6	1,147	5,421	.5
Apparel and Related Products	753	23,691	3.1	974	21,274	2.2
Paper and Allied Products	270	3,534	1.3	389	4,770	1.2
Printing and Publishing Industries	324	5,290	1.6	438	6,607	1.5
Chemicals and Allied Products	276	12,078	4.4	467	14,305	3.1
Petroleum and Coal Products	108	1,485	1.4	170	1,955	1.2
Rubber Products	121	1,811	1.5	215	4,789	2.2
Leather and Leather Products	327	3,349	1.0	349	3,020	.9
TOTAL	4,150	77,470	1.9	5,351	88,134	1.6

1/ In thousands of workers.

TABLE 23

VARIOUS MANUFACTURING STATISTICS FOR MARYLAND AND THE UNITED STATES BY INDUSTRY

WAGES PAID TO PRODUCTION WORKERS

	Selected Years					
	1921			1929		
Durable Industries	U.S. 1/	State 1/	% of U.S.	U.S. 1/	State 1/	% of U.S.
Lumber and Products, Except Furniture	482,768	3,393	.7	632,183	3,891	.6
Furniture and Fixtures	164,771	1,657	1.0	275,997	2,973	1.1
Stone, Clay and Glass Products	305,449	3,492	1.1	435,865	4,379	1.0
Primary Metal Industries	566,791	3,866	.7	1,637,464	2,849	.2
Fabricated Metal Products	378,855	6,270	1.7	679,015	7,938	1.2
Machinery (Except Electrical)	569,766	5,931	1.0	1,236,763	6,465	.5
Electrical Machinery	216,016	-	-	474,203	875	.2
Transportation Equipment	591,333	21,334	3.6	1,580,533	16,318	1.0
Instruments and Related Products	77,786	45	-- 2/	107,890	17	.2
Miscellaneous Manufacture	245,126	14,924	6.1	371,478	44,984	12.1
TOTAL	3,598,661	60,913	1.7	7,430,391	90,688	1.2
Non-Durable Industries						
Food and Kindred Products	742,352	9,927	1.3	895,713	13,955	1.6
Tobacco Manufactures	120,903	1,873	1.5	94,578	391	.4
Textile Mill Products	916,387	4,750	.5	1,082,260	4,196	.4
Apparel and Related Products	584,036	15,951	2.7	686,846	17,601	2.6
Paper and Allied Products	197,926	3,460	1.7	281,461	2,601	.9
Printing and Publishing Industries	435,655	5,909	1.4	636,375	8,387	1.3
Chemicals and Allied Products	218,396	4,763	2.2	352,303	5,761	1.6
Petroleum and Coal Products	135,824	1,570	1.2	180,028	1,817	1.0
Rubber Products	123,613	-	-	207,306	-	-
Leather and Leather Products	314,652	1,643	.5	359,461	2,623	.7
TOTAL	3,789,744	49,847	1.3	4,776,331	57,333	1.2

1/ In thousands of dollars
2/ Less than 0.1%

TABLE 23 (Contd.)

VARIOUS MANUFACTURING STATISTICS FOR MARYLAND AND THE UNITED STATES BY INDUSTRY

WAGES PAID TO PRODUCTION WORKERS

	Selected Years					
	1939			1947		
Durable Industries	U.S.	State	% of U.S.	U.S.2/	State1/	% of U.S.
Lumber and Products, Except Furniture	N.A.	N.A.		1,188	7,095	.6
Furniture and Fixtures				654	4,738	.7
Stone, Clay and Glass Products				995	13,391	1.3
Primary Metal Industries				2,981	76,119	2.6
Fabricated Metal Products				2,184	36,390	1.7
Machinery (Except Electrical)				3,595	20,993	.6
Electrical Machinery				1,647	16,568	1.0
Transportation Equipment				2,934	83,788	2.9
Instruments and Related Products				468	1,739	.4
Miscellaneous Manufacture				920	8,573	.9
TOTAL				17,566	269,394	1.5
Non-Durable Industries						
Food and Kindred Products				2,583	50,559	2.0
Tobacco Manufactures				176	209	.1
Textile Mill Products				2,449	11,495	.5
Apparel and Related Products				2,020	39,016	1.9
Paper and Allied Products				1,011	11,091	1.1
Printing and Publishing Industries				1,318	18,299	1.4
Chemicals and Allied Products				1,226	34,871	2.8
Petroleum and Coal Products				559	5,695	1.0
Rubber Products				615	11,877	1.9
Leather and Leather Products				725	5,198	.7
TOTAL				12,682	188,310	1.5

1/ In thousands of dollars.
2/ In millions of dollars.

TABLE 24

VARIOUS MANUFACTURING STATISTICS FOR MARYLAND AND THE UNITED STATES BY INDUSTRY

VALUE ADDED BY MANUFACTURE

	Selected Years					
	1921			1929		
Durable Industries	U.S. 1/	State 1/	% of U.S.	U.S. 1/	State 1/	% of U.S.
Lumber and Products, Except Furniture	852,830	6,955	.8	1,322,049	10,003	.8
Furniture and Fixtures	346,971	4,678	1.3	614,533	9,222	1.5
Stone, Clay and Glass Products	605,136	7,513	1.2	1,053,908	13,533	1.3
Primary Metal Industries	931,245	7,649	.8	3,961,031	31,232	.8
Fabricated Metal Products	784,665	13,879	1.8	1,702,291	31,069	1.8
Machinery (Except Electrical)	1,272,021	13,768	1.1	3,174,705	19,302	.6
Electrical Machinery	547,071	-	-	1,389,424	5,851	.4
Transportation Equipment	1,215,144	31,890	2.6	3,085,634	32,581	1.1
Instruments and Related Products	188,781	120	-- 2/	300,866	282	-- 2/
Miscellaneous Manufacture	577,450	5,219	.9	1,105,595	8,411	.8
TOTAL	7,520,134	92,113	1.2	17,710,036	161,486	.9
Non-Durable Industries						
Food and Kindred Products	2,119,577	35,173	1.7	3,339,848	75,576	2.3
Tobacco Manufactures	439,801	4,281	1.0	816,969	990	.1
Textile Mill Products	1,823,643	10,634	.6	2,320,874	12,378	.5
Apparel and Related Products	1,408,056	43,545	3.1	1,927,269	56,755	2.9
Paper and Allied Products	392,012	6,490	1.7	782,043	7,867	1.0
Printing and Publishing Industries	1,305,794	18,678	1.4	2,233,209	32,642	1.5
Chemicals and Allied Products	833,662	21,003	2.5	1,737,266	44,343	2.6
Petroleum and Coal Products	429,870	9,810	2.3	1,828,848	12,375	.7
Rubber Products	327,024	-	-	538,783	-	-
Leather and Leather Products	610,382	4,136	.7	774,179	7,861	1.0
TOTAL	9,689,821	153,750	1.6	13,157,478	252,317	1.9

1/ In thousands of dollars.
2/ Less than 0.1%

TABLE 24 (Contd.)

VARIOUS MANUFACTURING STATISTICS FOR MARYLAND AND THE UNITED STATES BY INDUSTRY

VALUE ADDED BY MANUFACTURE

	Selected Years					
	1939			1947		
Durable Industries	U.S.2/	State1/	% of U.S.	U.S.2/	State1/	% of U.S.
Lumber and Products, Except Furniture	731	5,413	.7	2,513	13,112	.5
Furniture and Fixtures	418	3,959	.9	1,379	10,070	.7
Stone, Clay and Glass Products	856	13,473	1.6	2,307	33,472	1.5
Primary Metal Industries	2,169	72,451	3.3	5,775	158,832	2.8
Fabricated Metal Products	1,401	30,634	2.2	4,918	83,150	1.7
Machinery (Except Electrical)	2,037	11,312	.6	7,817	44,269	.6
Electrical Machinery	942	11,762	1.2	3,894	34,812	.9
Transportation Equipment	1,773	40,967	2.3	5,860	150,823	2.6
Instruments and Related Products	333	921	.3	1,080	3,680	.3
Miscellaneous Manufacture	630	8,172	1.3	2,090	20,500	1.0
TOTAL	11,290	199,064	1.8	37,633	552,720	1.5
Non-Durable Industries						
Food and Kindred Products	3,485	69,134	2.0	9,022	189,486	2.1
Tobacco Manufactures	350	255	-- 3/	643	401	-- 3/
Textile Mill Products	1,818	10,411	.6	5,334	24,517	.5
Apparel and Related Products	1,386	35,844	2.6	4,423	93,695	2.1
Paper and Allied Products	888	8,292	.9	2,875	25,262	.9
Printing and Publishing Industries	1,765	21,987	1.2	4,269	54,241	1.3
Chemicals and Allied Products	1,819	57,447	3.2	5,360	142,559	2.7
Petroleum and Coal Products	697	8,739	1.3	2,017	18,016	.9
Rubber Products	406	4,659	1.1	1,303	27,088	2.1
Leather and Leather Products	583	4,757	.8	1,485	10,422	.7
TOTAL	13,197	221,525	1.7	36,731	585,687	1.6

1/ In thousands of dollars. 3/ Less than 0.1%.
2/ In millions of dollars.

TABLE 25

NUMBER OF ESTABLISHMENTS IN THE UNITED STATES BY STATE

1947 and 1939

STATE	1947 UNITS	1947 RANK	1939 UNITS	1939 RANK
New York	47,701	1	32,672	1
California	17,645	2	11,558	4
Pennsylvania	16,787	3	13,116	2
Illinois	15,982	4	11,983	3
Ohio	12,299	5	9,543	5
New Jersey	10,751	6	7,438	7
Massachusetts	10,516	7	8,445	6
Michigan	9,889	8	5,961	9
Texas	7,124	9	5,085	10
Wisconsin	6,980	10	6,334	8
Missouri	5,724	11	4,487	11
Indiana	5,407	12	4,192	12
North Carolina	5,320	13	3,158	14
Georgia	4,752	14	3,054	15
Minnesota	4,567	15	3,735	13
Connecticut	3,938	16	2,809	17
Virginia	3,643	17	2,494	20
Washington	3,407	18	2,858	16
Tennessee	3,345	19	2,225	21
Alabama	3,334	20	1,982	22
Oregon	3,075	21	1,903	24
Iowa	2,965	22	2,541	19
MARYLAND	2,825	23	2,712	18
Florida	2,807	24	1,976	23
Louisiana	2,387	25	1,779	25
Kentucky	2,244	26	1,582	26
Rhode Island	2,213	27	1,399	29
South Carolina	2,138	28	1,300	30
Mississippi	1,981	29	1,235	31
Kansas	1,946	30	1,418	28
Arkansas	1,924	31	1,115	34
Oklahoma	1,740	32	1,530	27
Maine	1,636	33	1,118	33
Colorado	1,603	34	1,219	32
West Virginia	1,602	35	1,094	35
Nebraska	1,343	36	1,093	36
New Hampshire	1,124	37	772	37
Vermont	830	38	659	38
Utah	773	39	549	40
Montana	745	40	552	39
Idaho	664	41	498	41
Arizona	545	42	313	46
South Dakota	494	43	450	42
Delaware	482	44	416	43
New Mexico	432	45	262	47
District of Columbia	430		452	
North Dakota	362	46	342	45
Wyoming	255	47	400	44
Nevada	125	48	94	48

TABLE 26

PRODUCTION AND RELATED WORKERS IN THE UNITED STATES BY STATE

1947 and 1939

STATE	1947 NUMBER 1/ OF WORKERS	1947 RANK	1939 NUMBER 1/ OF WORKERS	1939 RANK
New York	1,426,000	1	949,000	1
Pennsylvania	1,221,000	2	853,000	2
Ohio	989,000	3	596,000	3
Illinois	953,000	4	591,000	4
Michigan	822,000	5	520,000	5
New Jersey	602,000	6	432,000	7
Massachusetts	601,000	7	459,000	6
California	530,000	8	272,000	9
Indiana	457,000	9	275,000	8
North Carolina	350,000	10	270,000	10
Wisconsin	343,000	11	199,000	12
Connecticut	331,000	12	233,000	11
Missouri	270,000	13	176,000	13
Texas	242,000	14	125,000	19
Georgia	225,000	15	156,000	14
Tennessee	192,000	16	131,000	17
Virginia	191,000	17	132,000	16
MARYLAND	189,000	18	141,000	15
Alabama	186,000	19	116,000	20
South Carolina	176,000	20	126,000	18
Minnesota	145,000	21	78,000	23
Rhode Island	128,000	22	106,000	21
Washington	123,000	23	82,000	22
Iowa	112,000	24	65,000	26
Louisiana	111,000	25	70,000	25
Kentucky	111,000	25	62,000	27
West Virginia	109,000	26	74,000	24
Oregon	92,000	27	57,000	28
Maine	90,000	28	74,000	24
Mississippi	70,000	29	46,000	31
Florida	67,000	30	51,000	30
New Hampshire	66,000	31	55,000	29
Kansas	59,000	32	31,000	33
Arkansas	58,000	33	36,000	32
Colorado	44,000	34	24,000	35
Oklahoma	44,000	34	28,000	34
Nebraska	37,000	35	18,000	37
Vermont	30,000	36	20,000	36
Delaware	29,000	37	20,000	36
Utah	20,000	38	11,000	38
Montana	17,000	39	9,000	40
Idaho	15,000	40	10,000	39
Arizona	11,000	41	6,000	41
District of Columbia	10,000		8,000	
South Dakota	8,000	42	5,000	42
New Mexico	6,000	43	3,000	43
Wyoming	4,000	44	3,000	43
North Dakota	4,000	45	3,000	43
Nevada	2,000	46	1,000	44

1/ Average for the year

TABLE 27

VALUE ADDED BY MANUFACTURE IN THE UNITED STATES BY STATE

1947 and 1939

STATE	1947 MILLIONS OF DOLLARS	1947 RANK	1939 MILLIONS OF DOLLARS	1939 RANK
New York	9,636	1	3,314	1
Pennsylvania	6,950	2	2,477	2
Illinois	6,674	3	2,187	3
Ohio	6,379	4	2,116	4
Michigan	5,187	5	1,794	5
New Jersey	4,174	6	1,518	6
California	3,996	7	1,123	8
Massachusetts	3,333	8	1,181	7
Indiana	2,979	9	965	9
Wisconsin	2,262	10	682	11
Connecticut	1,893	11	690	10
Texas	1,716	12	449	14
North Carolina	1,646	13	544	13
Missouri	1,623	14	582	12
MARYLAND	1,140	15	421	15
Virginia	1,052	16	376	16
Minnesota	1,024	17	307	18
Georgia	1,011	18	280	19
Tennessee	956	19	318	17
Alabama	877	20	246	21
Washington	872	21	268	20
South Carolina	795	22	169	27
Kentucky	745	23	186	26
Louisiana	692	24	199	25
Iowa	673	25	243	23
Oregon	673	25	157	28
West Virginia	664	26	213	24
Rhode Island	657	27	238	22
Kansas	461	28	117	30
Maine	432	29	151	29
Florida	352	30	116	31
Oklahoma	341	31	102	33
New Hampshire	307	32	104	32
Mississippi	300	33	73	35
Colorado	290	34	90	34
Arkansas	266	35	66	37
Nebraska	260	36	68	36
Delaware	182	37	54	38
Vermont	150	38	50	39
Utah	129	39	43	40
Idaho	110	40	30	43
Montana	108	41	39	41
Arizona	104	42	32	42
District of Columbia	99		43	
New Mexico	55	43	9	47
South Dakota	51	44	20	44
Wyoming	31	45	15	45
North Dakota	29	46	11	46
Nevada	28	47	11	46

TABLE 28

FIVE LEADING INDUSTRIES IN VALUE ADDED BY MANUFACTURE

MARYLAND, SELECTED YEARS 1921 - 1947

(in thousands of dollars)

1921	Value Added	1929	Value Added
1. Apparel and Related Products	$ 43,545	Food and Kindred Products	$ 75,576
2. Food and Kindred Products	35,173	Apparel and Related Products	56,775
3. Transportation Equipment	31,890	Chemicals and Allied Products	44,343
4. Chemicals and Allied Products	21,003	Transportion Equipment	32,581
5. Printing and Publishing Ind.	18,678	Printing and Publishing Ind.	32,642

1939		1947	
1. Primary Metals Industry	72,451	Food and Kindred Products	189,486
2. Food and Kindred Products	69,134	Primary Metals Industry	158,832
3. Chemicals and Allied Products	57,447	Transportation Equipment	150,823
4. Transportation Equipment	40,967	Chemicals and Allied Products	142,559
5. Apparel and Related Products	35,844	Apparel and Related Products	93,695

TABLE 29

FIVE LEADING DURABLE GOODS PRODUCING INDUSTRIES
IN VALUE ADDED BY MANUFACTURE

MARYLAND, SELECTED YEARS 1921 - 1947

(in thousands of dollars)

1921	Value Added	1929	Value Added
1. Transportation Equipment	$ 31,890	Transportation Equipment	$ 32,581
2. Fabricated Metals Products	13,879	Primary Metals Industry	31,232
3. Machinery (Except Electrical)	13,768	Fabricated Metal Products	31,069
4. Primary Metals Industry	7,649	Machinery (Except Electrical)	19,302
5. Stone, Clay and Glass Products	7,513	Stone, Clay and Glass Products	13,533

1939		1947	
1. Primary Metals Industry	72,451	Primary Metals Industry	158,832
2. Transportation Equipment	40,967	Transportation Equipment	150,823
3. Fabricated Metal Products	30,634	Fabricated Metal Products	83,150
4. Stone, Clay & Glass Products	13,473	Machinery (Except Electrical)	44,269
5. Electrical Machinery	11,762	Electrical Machinery	34,812

TABLE 30

FIVE LEADING NON-DURABLE GOODS PRODUCING INDUSTRIES
IN VALUE ADDED BY MANUFACTURE

MARYLAND, SELECTED YEARS 1921 - 1947

(in thousands of dollars)

1921	Value Added	1929	Value Added
1. Apparel and Related Products	$ 43,545	Food and Kindred Products	$ 75,576
2. Food and Kindred Products	35,173	Apparel and Related Products	56,755
3. Chemicals and Allied Products	21,003	Chemicals and Allied Products	44,343
4. Printing and Publishing Ind.	18,678	Printing and Publishing Ind.	32,642
5. Textile Mill Products	10,634	Textile Mill Products	12,378

1939		1947	
1. Food and Kindred Products	69,134	Food and Kindred Products	189,486
2. Chemicals and Allied Products	57,447	Chemicals and Allied Products	142,559
3. Apparel and Related Products	35,844	Apparel and Related Products	93,695
4. Printing and Publishing Ind.	21,987	Printing and Publishing Ind.	54,241
5. Textile Mill Products	10,411	Rubber Products	27,088

TABLE 31

COMPARISON OF LEADING MAJOR INDUSTRY GROUPS
IN MARYLAND
WITH VALUE ACCRUING TO THESE GROUPS IN OTHER STATES

1947

Primary Metals

Rank	State	Value Added by Manufacture
1	Pennsylvania	$ 1,219,000,000
2	Ohio	853,000,000
3	Illinois	558,000,000
4	Indiana	449,000,000
5	Michigan	427,000,000
6	New York	369,000,000
7	Massachusetts	227,000,000
8	New Jersey	216,000,000
9	California	176,000,000
10	Alabama	170,000,000
11	Connecticut	165,000,000
12	MARYLAND	159,000,000

Chemicals and Allied Products

1	New Jersey	745,000,000
2	New York	596,000,000
3	Illinois	433,000,000
4	Ohio	347,000,000
5	Pennsylvania	315,000,000
6	Michigan	281,000,000
7	California	280,000,000
8	Indiana	246,000,000
9	Texas	234,000,000
10	Virginia	219,000,000
11	West Virginia	176,000,000
12	Tennessee	163,000,000
13	Massachusetts	143,000,000
14	MARYLAND	143,000,000

TABLE 31 (Contd.)

Transportation Equipment

Rank	State	Value Added By Manufacture
1	Michigan	$ 1,938,000,000
2	California	554,000,000
3	Ohio	483,000,000
4	Indiana	442,000,000
5	New York	408,000,000
6	Pennsylvania	314,000,000
7	Illinois	253,000,000
8	New Jersey	222,000,000
9	Missouri	173,000,000
10	Wisconsin	166,000,000
11	MARYLAND	151,000,000

Food and Kindred Products

1	Illinois	1,010,000,000
2	New York	977,000,000
3	California	852,000,000
4	Pennsylvania	586,000,000
5	Ohio	413,000,000
6	Wisconsin	383,000,000
7	New Jersey	355,000,000
8	Texas	338,000,000
9	Missouri	332,000,000
10	Indiana	291,000,000
11	Kentucky	289,000,000
12	Michigan	285,000,000
13	Minnesota	279,000,000
14	Iowa	229,000,000
15	MARYLAND	189,000,000

Apparel and Related Products

1	New York	2,009,000,000
2	Pennsylvania	434,000,000
3	New Jersey	252,000,000
4	Illinois	251,000,000
5	California	188,000,000
6	Massachusetts	172,000,000
7	Missouri	131,000,000
8	Ohio	127,000,000
9	MARYLAND	94,000,000

TABLE 32

MARYLAND COMPARED WITH OTHER STATES IN
THE MANUFACTURE OF SELECTED PRODUCTS, 1947

(in thousands of dollars)

MEN'S AND BOY'S CLOTHING[1]

Rank	State	Value Added By Manufacture	Per cent Of United States
1	New York	$ 428,169	29.0
2	Pennsylvania	235,409	15.9
3	Illinois	83,036	5.6
4	New Jersey	74,067	5.0
5	MARYLAND	71,915	4.9
6	Ohio	71,035	4.8
7	Massachusetts	61,491	4.2
	Others	453,032	30.6
	United States	1,478,154	100.0
	SHIPS AND BOATS		
1	New York	86,016	14.7
2	California	73,194	12.5
3	New Jersey	70,318	12.0
4	MARYLAND	53,000	9.0
5	Pennsylvania	23,439	4.0
	Others	280,591	47.8
	United States	586,558	100.0
	FERTILIZERS		
1	MARYLAND	21,045	11.3
	Others	165,556	88.7
	United States	186,601	100.0
	TIN CANS AND OTHER TINWARE		
1	Illinois	60,883	26.2
2	California	30,823	13.3
3	MARYLAND	24,187	10.4
	Others	116,060	50.0
	United States	231,953	100.0
	BROOMS AND BRUSHES		
1	New York	21,518	24.7
2	Massachusetts	12,301	14.1
3	Illinois	7,725	8.9
4	New Jersey	6,875	7.9
5	Ohio	6,735	7.7
6	MARYLAND	6,256	7.2
	Others	25,878	29.6
	UNITED STATES	87,288	100.0

1/ Includes "Men's and Boy's Suits and Coats" and "Men's and Boy's Furnishings".

TABLE 32 (Contd.)

UMBRELLAS, PARASOLS AND CANES

Rank	State	Value Added By Manufacture	Per cent Of United States
1	New York	$ 7,010	45.5
2	Pennsylvania	3,181	20.6
3	New Jersey	2,829	18.3
4	MARYLAND	1,106	7.2
	Others	1,295	8.4
	United States	15,421	100.0

SCIENTIFIC INSTRUMENTS

1	New York	28,632	34.5
2	New Jersey	24,035	29.0
3	Illinois	9,483	11.4
4	MARYLAND	3,138	3.8
	Others	17,722	21.3
	United States	83,010	100.0